REMARKS

Claims 14-16, 20 and 21 are pending in this application. By this Amendment, claims 14, 16, 20 and 21 are amended and claims 17-19 are canceled. Support for amended claims 14, 20 and 21 can be found, for example, at page 4, paragraph [0012], and support for amended claim 16 can be found, for example, at page 4, paragraph [0011] of the originally filed specification. No new matter is added.

I. Claim Rejections under 35 U.S.C. §112

Claims 14, 20 and 21 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Applicants respectfully traverse the rejection; however, in order to expedite prosecution, claims 14, 20 and 21 are amended to delete "or an inorganic material" and "the whisker," rendering their rejection moot. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

II. Claim Rejections under 35 U.S.C. §102

Claims 14-21 are rejected under 35 U.S.C. §102(b) as being anticipated by JP 08086324 (JP '324). By this Amendment, claims 17-19 are cancelled, rendering their rejection moot. As to the remaining claims, Applicants respectfully traverse the rejection.

As amended, claims 14, 20 and 21 recite: "a porous material...wherein the porous material has a uniform volume rate, the volume rate is from 30 to 60% when a plate thickness of a portion of the porous material which contacts the secondary material in a direction spaced from the secondary material is not less than 1 mm and less than 2 mm, and the volume rate is from 20 to 60% when a plate thickness of a portion of the porous material which contacts the secondary material in a direction spaced from the secondary material is not less than 2 mm."

When, the uniform volume rate of the porous material is set to be in the range recited in the claims, the porous material is arranged between the main material and the secondary

material, moderating thermal strain between the secondary material and the main material. In addition, the contact area between the porous material and the secondary material is sufficiently increased. Consequently, the main material composed of aluminum or magnesium is impregnated into the porous material and the main material reaches the secondary material, allowing the main material and the secondary material to adhere to each other.

As shown in Table 1 of the present specification, Vf was increased so that the boundary strength was increased. In this case, increasing the plate thickness was effective for the boundary strength in the range of a small Vf (less than 30). However, increasing the plate thickness was not effective for the boundary strength in a range of a large Vf.

Therefore, the closest element for the boundary strength Vf was in the vicinity of the joining face of the porous material and the secondary material. When the plate thickness was less than 2 mm but not less than 1 mm, Vf was at least 30. When Vf was larger, the boundary strength was larger. Thus, the thermal property in the portion including the porous material of the main material is not intermediate, and the action of moderating thermal strain between the secondary material and the main material is not sufficient. In addition, because joining the area by diffusion between the porous material and the secondary material is small, the strength of the joining of the secondary material and the main material is not sufficient.

When Vf in the vicinity of the joining face was even smaller (not less than 20), the smaller Vf could be covered by the plate thickness (not less than 2 mm). When the plate thickness is not less than 2 mm, the thermal property is intermediate. Thus, moderating thermal strain between the secondary material and the main material is sufficient. In addition, when sintering is performed while putting the porous material on the secondary material, the joining area by diffusion between the porous material and the secondary material is increased by contraction of the porous material on the joining face by its own weight in the direction of

the plate thickness. Thus, the strength of the joining of the secondary material and the main material is sufficient.

In contrast, when the Vf was set to be not less than 70, high impregnation performance and adhesion performance could not be obtained and casting could not be preferably performed. See specification at p. 10, Table 1, Samples 10, 17 and 24. This is because when the Vf is excessively increased, it is difficult for the main material to impregnate the porous material in casting.

Moreover, when the plate thickness was excessively small, for example, less than 1 mm, even when the Vf was increased, the effect of existence of the porous material in the boundary area between the main material and the secondary material was not apparent. See specification at p. 10, Table 1, Samples 1-3. This is because when the plate thickness is less than 1 mm, a layer having the intermediate thermal property is thin. Thus, moderating thermal strain between the secondary material and the main material is not sufficient.

As described above, it was confirmed that when the plate thickness of the porous material and the volume rate thereof are set as claimed, the effects of the present invention can be obtained.

In contrast, JP '324 discloses a porous material (spongelike metal) having a plate thickness of 2 mm and a volume rate of 70% (porosity of 30%) and a porous material (spongelike metal) having a plate thickness of 2 mm and a volume rate of 30% (porosity of 70%) laminated on a secondary material (surface layer of sliding surface). See JP' 324 Translation at paragraph [0030].

JP '324 teaches that when a plate thickness of a portion of the porous material, which contacts the secondary material in a direction spaced from the secondary material is less than 2 mm but not less than 1 mm, the volume rate is out of the range recited by the claims. In JP '324, because the porous materials have different volume rates and are laminated, the volume

rate of the overall porous materials is not uniform. Thus, JP '324 does not disclose, teach or suggest that thermal strain between the main material and the secondary material can be moderated and that the main material and the secondary material can adhere to each other by controlling the plate thickness and the volume rate.

Moreover, JP '234 does not teach a "composite material...wherein the porous material has a uniform volume rate, the volume rate is from 30 to 60% when a plate thickness of a portion of the porous material which contacts the secondary material in a direction spaced from the secondary material is not less than 1 mm and less than 2 mm, and the volume rate is from 20 to 60% when a plate thickness of a portion of the porous material which contacts the secondary material in a direction spaced from the secondary material is not less than 2 mm," as recited by claim 14.

As JP '324 fails to disclose, teach or suggest each and every feature of claims 14, 20 and 21, claims 14, 20 and 21 would not have been anticipated by JP '324. Claims 15 and 16 depend from claim 14 and, thus, also would not have been anticipated by JP '324. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

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